

OAS-SBS-IOM-1021

Analog inputs: 8 analog inputs: 8 AI module (active/passive), 8 x status LED



The analog input module **OAS-SBS-IOM-1021** is used for connecting, measuring and signaling of up to eight analog sensor values.

The sensors will be connected to the module via terminals.

The reference potential for the analog inputs is available at the GND terminals. For two AIs there is available one GND terminal in each case. All ground pins are connected to each other internally and to the GND of the power supply, as well.

Active signals (0-10V) as well as various passive sensor types (e.g., Pt1000, Ni1000) may be connected to the module. If an input is configured

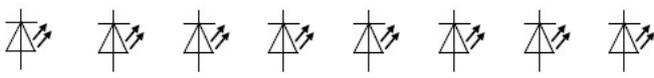
for 0..10V signals, its value will be signaled by the concerned status LED of the channel in light / dark operating mode in green color. When using resistive sensors, a wire break of the sensor (open analog input) will be signaled by the LED of the channel in red color, otherwise it will be lit green dimmed. Unused inputs should be configured for 0-10V signals and connected to GND potential.

Regarding the system configuration (addressing, maximum number of modules connected to a MODBus Master interface, installation, connection to the bus etc.), please follow the instructions in the chapter **Configuration**.

Supported types of sensors:

Type of sensor	Measured range		Unit of the measured value
	from	to	
0..10 V	0 V	10 V	mV (1000 = 1,000 V)
0...5 kΩ	0 Ω	5000 Ω	Ω/10 (1000 = 100,0 Ω)
0...15 kΩ	0 Ω	15000 Ω	Ω (1000 = 1000 Ω)
Pt 100	-50,0 °C	199,9 °C	°C/10 (1000 = 100,0 °C)
Pt 1000	-50,0 °C	199,9 °C	°C/10 (1000 = 100,0 °C)
Ni 1000	-50,0 °C	199,9 °C	°C/10 (1000 = 100,0 °C)
Ni 1000 L&G	-50,0 °C	199,9 °C	°C/10 (1000 = 100,0 °C)
KTY81-110	-55,0 °C	149,9 °C	°C/10 (1000 = 100,0 °C)
KTY81-210	-55,0 °C	149,9 °C	°C/10 (1000 = 100,0 °C)
NTC 20k	-50,0 °C	149,9 °C	°C/10 (1000 = 100,0 °C)
NTC 10k	-50,0 °C	149,9 °C	°C/10 (1000 = 100,0 °C)
KP10 / LM235	-50,0 °C	149,9 °C	°C/10 (1000 = 100,0 °C)

Overview terminal assignment:

OAS-SBS-IOM-1021				AIs for active sensors 0..10 V and various types of RTD sensors							
	GND	24V AC/DC	GND for AIs								
AI No. 1-8				1	2	3	4	5	6	7	8
Terminal:				10	12	13	15	16	18	19	21
GND for AIs											
Terminal:			11 14 17 20								
Power supply											
Terminal:	1	2									

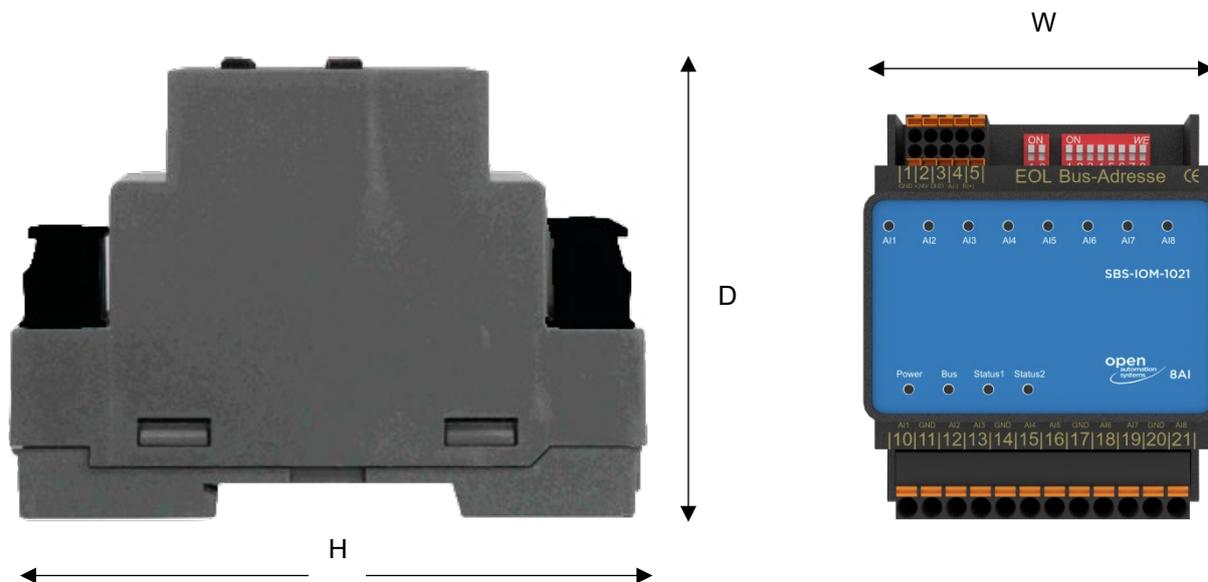
Bus connection	Terminal No.
I-GND	3
Net A (-) aka /D	4
Net B (+) aka D	5

Important technical data:

Power supply:	24 V AC or DC, connection via terminals
Resolution AI	10 Bit
Impedance	20 MΩ
Supply voltage	24 V AC or DC, ± 10%
Current consumption	max. 40 mA (DC), 80 mA (AC)
Power dissipation	max. 1.0 W (DC), 1.9 W (AC)
Counting pulse (only digital inputs)	duration min. 10ms, only for DC signals
Max. counter value (digital inputs)	6 65,535 (= $2^{16}-1$)
Bus interface	RS485
Supported baud rates (Autobauding)	9,600 Baud, 19,200 Baud, 38,400 Baud, 57,600 Baud
Bus cycle time	individually depending on the baud rate and the number of data points that will be addressed
Memory	μPC internally
Max. number of write cycles	Configuration settings such as setting the LED colors, inverting the inputs, or upshift and downshift times are stored in the internal EEPROM and can be overwritten up to 100,000 times.
Protocol	MODBus rtu (RS485)
Serial port parameter setting	8-N-1
Inputs and outputs	see corresponding documentation of the respective modules
Environmental conditions:	
Operating temperature	0...50°C
Transport and storage temperature	0...70°C
Relative humidity	10...90%, non-condensing
Protection class	IP 20
Dimensions	(for exact dimensions see chapter Dimensions and weights)

Dimensions and weights

The dimensions of the modules can be seen from the following figures and the table below:



All dimensions in mm, weight in grams

Type	H	B	D						Weight
SBS-IOM-1021	92	72	70						146

Wiring diagrams

